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Magnetic depth profiles of complex oxide F/S/F trilayers. C. VISANI, Z. SEFRIOUI, C. LEON, J. SANTAMARIA, Universidad Complutense de Madrid, Spain, S.G.E. TE VELTHUIS, A. HOFFMANN, Argonne National Laboratory, NORBERT M. NEMES, M. GARCIA-HERNANDEZ, Instituto de Ciencia de Materiales de Madrid, Spain, M.R. FITZSIMMONS, B.J. KIRBY, Los Alamos National Laboratory — The origin of the large magnetoresitance in epitaxial F/S/F trilayers composed of highly spin polarized ferromagnetic $La_{0.7}Ca_{0.3}MnO_3$ and high-T_c superconducting $YBa_2Cu_3O_{7-\delta}$ (YBCO) is investigated by characterizing the magnetic structure. Polarized neutron reflectometry experiments have determined the detailed magnetization depth profiles in trilayers with varying YBCO layer thicknesses. In addition to inhomogeneous magnetization profiles, rotation of the magnetization during the magnetization reversal for the films with thick ($\geq$ 17.7 nm) YBCO layers has been observed. The results are consistent with the presence of an (in plane) easy-axis tilted away from the (100) direction.

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